

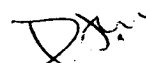
APPENDIX H
Reserved

11/27/17

APPENDIX I
Sustainable Skip Period Program

The following skip rules will apply in lieu of 40 C.F.R. § 63.168(d)(2)-(4) and 40 C.F.R. § 60.483-2(b)(2)-(3).

1. Valero or Tesoro may move to less frequent monitoring on a unit-by-unit basis using the following criteria:
 - a. At process units that have less than 2 percent leaking valves for 2 consecutive months, the owner or operator shall monitor each valve once every quarter, beginning with the next quarter.
 - b. After 2 consecutive quarterly leak detection periods with the percent of leaking valves less than or equal to 1 percent, the owner or operator may elect to monitor each valve once every 2 quarters.
 - c. After 3 consecutive semi-annual leak detection periods with the percent of valves leaking less than or equal to 0.5 percent, the owner or operator may elect to monitor each valve once every 4 quarters.
2. Valero or Tesoro must return to more frequent monitoring on a unit-by-unit basis using the following criteria:
 - a. If a process unit on a quarterly, semi-annual or annual monitoring schedule has a leak percentage greater than or equal to 2 percent in any single detection period, the owner or operator shall monitor each valve no less than every month, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.
 - b. If a process unit on a semi-annual or annual monitoring schedule has a leak percentage greater than or equal to 1 percent, but less than 2 percent in any single detection period, the owner or operator shall monitor each valve no less than quarterly, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.
 - c. If a process unit on an annual monitoring schedule has a leak percentage greater than or equal to 0.5 percent but less than 1 percent in any single detection period, the owner or operator shall monitor each valve no less than semi-annually, but can again elect to advance to less frequent monitoring pursuant to the schedule in 1, above.

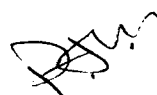


APPENDIX J
Reserved

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APPENDIX K
Acid Gas Flaring Devices

<u>Refinery</u>	<u>Acid Gas Flaring Device</u>
Ardmore	East Flare (Crude Flare) Old East Flare
Benicia	Acid Gas Flare
Corpus Christi East	No 1 SRU Emergency Flare No 2 SRU Emergency Flare SWS Emergency Flare
Corpus Christi West	Acid Gas Flare
Denver	Refinery Flare
Houston	Derrick Flare Isomax Flare FCC Flare
Krotz Springs	Crude Unit Flare FCC Unit Flare
McKee	Refinery Flare
Paulsboro	Old South Flare New South Flare North Flare Spare North Flare
St. Charles	Flare 1 Flare 2
Texas City	Flare No. 2 Flare No. 3 Flare No. 4 Emergency Flare No. 193A
Three Rivers	FCC Flare HCU Flare
Wilmington	Phase 0 Flare
Golden Eagle	Ammonia Plant Flare East Air Flare West Air Flare North Stream Flare South Stream Flare



Emergency Flare

DN.

APPENDIX L
REGENERATIVE SCRUBBER AND BENICIA WGS DESIGN AND OPTIMIZATION

All air pollution control equipment designed pursuant to this Appendix will be designed, built, and operated in accordance with accepted engineering practice and any regulatory requirements (e.g. any limitations on wastewater processing) that may apply.

A. Design Considerations

1. Absorber Vessel

- a. Volume
- b. Dimensions
- c. Pressure Drop
- d. Internal Configuration
- e. Location in Process Train

2. Scrubbing Liquor

- a. Type
- b. Scrubbing Liquor Blowdown/Makeup
- c. Scrubbing Liquor Circulation Rate
- d. Scrubbing Liquor pH

3. Flue Gas Characteristics

- a. Inlet/Outlet SO_2/SO_3 Concentrations
- b. Flue Gas Volumetric Flow
- c. Inlet/Outlet Temperature Range
- d. Inlet/Outlet Particulate Loading and Characteristics

4. Efficiency

- a. Designed to Outlet SO_2/SO_3 Concentration
- b. Designed to Removal Efficiency

5. Safety Considerations

B. Optimization Parameters

1. Scrubbing Liquor

- a. Type
- b. Scrubbing Liquor/Caustic Blowdown/Makeup
- c. Scrubbing Liquor Circulation Rate

d. Scrubbing Liquor pH

2. Flue Gas Characteristics

- a. Inlet/Outlet SO_2/SO_3 Concentrations
- b. Flue Gas Volumetric Flow
- c. Inlet/Outlet Temperature Range
- d. Inlet/Outlet Particulate Loading and Characteristics

3. Efficiency

- a. Actual Outlet SO_2/SO_3 Concentration
- b. Actual Removal Efficiency

4. Safety Considerations

APPENDIX M
Reserved

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APPENDIX N
Hydrocarbon Flaring Devices

Ardmore

East Flare (Crude Flare)

West Flare

Old East Flare

Old West Alky Flare

Denver

Refinery Flare

LPG Flare

McKee

Refinery Flare

FCC Flare

HCU Flare

Wastewater Treater Flare

Three Rivers

No 1 West Plant Flare

No 2 West Plant Flare

FCC Flare

HCU Flare

Wastewater Treater Flare

Wilmington

East Plant Phase 2 Flare

West Plant Phase 1 Flare

LPG Flare

Corpus East

Complex 8 Flare

Complex 7 Flare

Complex 6 Flare

Corpus West

BUP Flare

Main Flare

Ground Flare

Texas City

Flare No 1

Flare No 2

Flare No 3

Flare No 4

Flare No 5

Houston

Derrick Flare

Isomax Flare

FCC Flare

Benicia

Butane Tank Flare

South Flare

North Flare

Krotz Springs

Crude Unit Flare

FCC Unit Flare

Paulsboro

Old South Flare

New South Flare

North Flare

Spare North Flare

Golden Eagle

East Air Flare

Tank 691 Safety Flare

West Air Flare

North Steam Flare

South Steam Flare

Emergency Flare

St. Charles

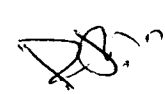
Flare 1

Flare 2

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APPENDIX O
Specific Heater and Boiler NSPS Schedule

<u>Refinery</u>	<u>Heater/Boiler</u>	<u>NSPS Compliance Date</u>
Texas City	H-28 Alkylation Heater	December 31, 2010
	H-57 Coker Heater	December 31, 2010
	H-58 Coker Heater	December 31, 2010
Benicia	F-801 Cat Naphtha Hydrofiner Heater	December 31, 2010
Golden Eagle	F-8	December 31, 2010
	F-9	December 31, 2010
	F-12	December 31, 2010
	F-13	December 31, 2010
	FCC Startup Heater	December 31, 2010



APPENDIX P
Truck and Vehicle Emission Reduction SEPs

Project Criteria: Each Federal Truck and Vehicle Emission Reduction SEP shall satisfy each of the following criteria:

1. To reduce emissions of particulates and/or ozone precursors, it shall involve either: (a) the retrofit of high-emitting, in-service heavy duty diesel vehicles with emissions control equipment or the replacement of their engines; (b) the replacement of conventional vehicles with zero/low emission vehicles; or (c) idle control programs at its truck stops or the truck stops of others.

2. It shall cover either the hardware and installation costs or the incremental additional cost of zero/low emission vehicles over convention vehicle replacement(s), and may also provide for incremental maintenance costs and/or costs of repairs on such hardware or vehicles (but limited to costs directly related to their low/zero emitting character) for a period of up to four years after installation.

3. Except with respect to Criteria 1(c), it shall involve vehicles that are operated an average of at least four days per week and shall cover fleets for which the affected municipality, other local governmental entity or other owner/operator has committed to: (a) maintain equipment installed or vehicles provided in connection with the SEP during and after completion of the SEP; (b) use ultra low-sulfur diesel fuel with the affected vehicles during and after completion of the SEP (if applicable); and (c) to take steps to achieve additional emissions reduction benefits in connection with the project, to the extent feasible (e.g., implementing an idle control program).

4. An affected municipality, other local government entity or other owner/operator whose fleet may be retrofitted using SEP funds under Criteria 1(a) may also propose the use of additional SEP funds to: (a) procure tanks or other infrastructure required to enable that fleet to obtain and use ultra low-sulfur diesel fuel ("ULSD"); and (b) offset higher fuel costs incurred by that entity that result from the requirement to use ULSD by the retrofitted fleet (if applicable). Use of SEP funds for ULSD-related purposes may be permissible up to June 1, 2006. Priority shall be given to proposals for which additional funding for ULSD-related costs is provided by other sources.

Reservation: EPA reserves the right to reject all or part of any project that could be funded by EPA under Section 103 of the Clean Air Act or that is otherwise inconsistent with its SEP Policy, applicable guidance or any other provision of law.



APPENDIX Q
RESOLVED ENFORCEMENT MATTERS

With respect to the enforcement matters identified below, entry of this Consent Decree shall resolve all civil liability to the United States and the Plaintiff-Interveners for the violations specifically identified, alleged and/or resolved (in the manner and to the extent set forth herein and in the referenced enforcement documents but only to the extent Valero is in continuing compliance with such resolution), from the date that the claims of the United States and the Plaintiff-Intervener accrued up to the Date of Lodging or the relevant Post-Lodging Compliance Date(s), if applicable.

I. CALIFORNIA

Benicia Refinery

A. Outstanding Enforcements

Outstanding Notices of Violation from the BAAQMD are not part of this Appendix Q

B. Prior 114 Requests

Section 114 Request from the EPA March 2000

C. Inspections/Areas of Concern

None

Wilmington Refinery

A. Outstanding Enforcements

Outstanding Notices of Violation from the SCAQMD are not part of this Appendix Q

B. Prior 114 Requests

None

C. Inspections/Areas of Concern

None

II. COLORADO

Denver Refinery

A. Outstanding Enforcements

DATE	TYPE	DESCRIPTION OF ALLEGED VIOLATION
9/15/2001	NOV (CDPHE)	Gaps in seals on UAPI & LAPI, Subpart J dispute on equipment failure venting to flare (mechanical seals on pumps).
11/17/2004	Compliance Advisory	Exceeded 10-year inspection on Kb Tk. No 30 day notice prior to refilling 2 Kb tanks. Loading trucks w/o flare operating. Not performing adequate inspections on QQQ sewers and using kerosene instead of water for sewer seals.

B. Prior 114 Requests

None

C. Inspections/Areas of Concern

None

APPENDIX Q RESOLVED ENFORCEMENT MATTERS

III. LOUISIANA

Krotz Springs Refinery

A. Outstanding Enforcements

None

B. Prior 114 Request

Section 114 Request from EPA March 2000

Section 114 Request from EPA August 2004

C. Inspections/Areas of Concern

All deviations/exceedances concerning permit for the FCCU regenerator stack reported in letters dated January 2, November 26, December 2, December 4, December 5, December 23 and December 26, 2002, and in letters dated February 6, February 25, March 3, March 6, March 10, March 17, April 29 and April 30, 2003.

All deviations/exceedances concerning a 2/6/04 flaring event reported in a letter dated February 10, 2004.

St. Charles Refinery

A. Outstanding Enforcements

DATE	TYPE	DESCRIPTION OF ALLEGED VIOLATION
12/21/2004	NOV (DPSC)	Delayed release notification on sulfur dioxides
8/8/2001	LDEQ CO/NOPP	AE-CN-01-0191; A.I. No. 26003
3/19/2002	LDEQ CO/NOPP	MM-CN-01-0054; A.I. No. 26003
8/29/2002	LDEQ CO/NOPP	MM-CN-02-0029; A.I. No. 26003
7/23/2002	NOV	EPA Region 6

B. Prior 114 Requests

Section 114 request from EPA dated March 16, 2001.

C. Inspections/Areas of Concern

Incident Report dated September 30, 2004, in connection with August 16, 2004 flaring event.

Incident Report dated July 23, 2004, in connection with a June 4, 2004 flaring event.

Incident Report dated April 16, 2004, in connection with a February 29, 2004 flaring event.

Incident Report March 12, 2004, in connection with a March 6, 2004 flaring event.

Follow-up Incident Report dated October 24, 2003, in connection with a September 7, 2003 SOx release (incident report dated September 12, 2003).

Follow-up Incident Report dated July 2, 2004, in connection with a May 14, 2004 flaring event (incident report dated May 21, 2004).

Follow-up Incident Report dated August 27, 2004, in connection with a July 14 & 21 flaring event (Incident Report dated July 21, 2004).

Follow-up Incident Report dated July 23, 2004, in connection with a June 5, 2004 SOx release (Incident Report dated June 11, 2004).

Follow-up Incident Report dated February 12, 2004, in connection with a February 5, 2004 hydrocarbon release.

All deviations exceedances reported in the Title V semi-annual report/Title V annual compliance certification dated March 31, 2004.

All deviations reported in the NSPS Subpart QQQ report dated April 30, 2004 and July 30, 2004.

All deviations reported in the Quarterly CEMS report dated May 5, 2004

All deviations reported in the Quarterly CEMS report dated July 30, 2004

All deviations reported in the LDAR report dated July 30, 2004.

All deviations reported in the Title V semi-annual monitoring report dated September 29, 2003.

All deviations/violations reported in the LDAR report dated April 30, 2004.

Any deviations reported in the CEMS report dated March 31, 2004.

EPA Notice of Violation dated July 23, 2002.

**APPENDIX Q
RESOLVED ENFORCEMENT MATTERS**

IV. NEW JERSEY

Paulsboro Refinery

A. Outstanding Enforcements

DATE	TYPE	DESCRIPTION OF ALLEGED VIOLATION
5/5/2000	Admin. Consent Order	AEA 990002-55006 dated May 20, 1999 (no penalty); AEA 9900003-55006 dated May 20, 1999 with a \$10,000 penalty; and PEA 000001-55006 dated February 3, 2000 with a penalty of \$20,000, all of which were resolved in Administrative Consent Order entered into with the State of New Jersey, dated May 5, 2000. Several issues regarding the 2000 ACO are under appeal including two stack emission tests and the issuance of a PSD permit.
5/31/2001	Demand Letter	Demand letter for stipulated penalties for ammonia exceedances.
5/31/2001	Demand Letter	Demand letter for stipulated penalties of \$50,000 for stack test failures on 9/25/01 and 12/27/01.
4/19/2002	AONOCAPA NJDEP	PEA020003-55006; \$64,200 penalty.
5/30/2002	AONOCAPA NJDEP	PEA020005-55006 (amending PEA020001-55006; \$44,200 penalty).
7/17/2002	AONOCAPA NJDEP	PEA020008-55006 (amending PEA020004-55006; \$10,000 penalty).
12/11/2002	AONOCAPA NJDEP	PEA020009-55006; \$25,200 penalty.
5/24/2002	AONOCAPA NJDEP	PEA020002-55829; \$19,000 penalty.
12/5/2002	AONOCAPA NJDEP	PEA020005-55829; \$800 penalty.
9/19/2002	AONOCAPA NJDEP	PEA020006-55829; \$400 penalty.
9/19/2002	AONOCAPA NJDEP	PEA020007-55829; \$15,000 penalty.
9/26/2002	AONOCAPA NJDEP	PEA020008-55829; \$68,400 penalty.
12/11/2002	AONOCAPA NJDEP	PEA020011-55829; \$217,500 penalty.
12/11/2002	AONOCAPA NJDEP	PEA020012-55829; \$7,200 penalty.
12/11/2002	AONOCAPA NJDEP	PEA020014-55829; \$9,700 penalty.
4/1/2003	AONOCAPA NJDEP	PEA030001-55829; \$21,000 penalty.
3/19/2003	AONOCAPA NJDEP	PEA030002-55829; \$72,000 penalty.
1/13/2004	AONOCAPA NJDEP	PEA040001-55829 (amending PEA030005-55829); \$37,000 penalty.
8/7/2003	AONOCAPA NJDEP	PEA030007-55829; \$1,600 penalty.
8/7/2003	AONOCAPA NJDEP	PEA030008-55829; \$4,300 penalty.
7/8/2003	AONOCAPA NJDEP	PEA030009-55829; \$3,000 penalty.
8/7/2003	AONOCAPA NJDEP	PEA030010-55829; \$7,200 penalty.
10/27/2003	AONOCAPA NJDEP	PEA030011-55829; \$10,000 penalty.
11/3/2003	Admin. Consent Order	10/27/03 demand for stipulated penalties of \$50,000 for 9/26/02 stack test (not resolved; Valero appealed).
11/21/2003	AONOCAPA NJDEP	PEA030012-55829; \$4,500 penalty.
11/25/2003	AONOCAPA NJDEP	PEA030013-55829; \$5,000 penalty.
12/4/2003	AONOCAPA NJDEP	PEA030014-55829; \$9,000 penalty.
12/12/2003	AONOCAPA NJDEP	PEA030015-55829; \$4,000 penalty.
1/31/2005	AONOCAPA NJDEP	PEA040002-55829; \$19,800 penalty.
3/14/2005	AONOCAPA NJDEP	PEA050002-55829; \$180,000 penalty.
2/4/2005	AONOCAPA NJDEP	PEA050003-55829; \$90,600 penalty.
1/31/2005	AONOCAPA NJDEP	PEA050005-55829; \$6,000 penalty.
3/15/2005	AONOCAPA NJDEP	PEA050008-55829; \$74,000 penalty.
2/4/2005	AONOCAPA NJDEP	PEA050010-55829; no penalty.

APPENDIX Q RESOLVED ENFORCEMENT MATTERS

Paulsboro Refinery

DATE	TYPE	DESCRIPTION OF ALLEGED VIOLATION
2/23/2005	Admin. Consent Order	2/23/05 demand for stipulated penalties of \$50,000 for 9/24/03 stack test (not resolved; Valero appealed).
2/7/2005	AONOCAPA NJDEP	PEA050011-55829; \$21,500 penalty.
2/9/2005	AONOCAPA NJDEP	PEA0500012-55829; \$4,000 penalty (not resolved; parties to confirm appeal).
4/15/2005	Admin. Consent Order	NEA030001 - 55829. Resolution of outstanding violations as described above and as provided in the Administrative Consent Order dated April 18, 2005, which includes for purposes of this Appendix Q, established compliance plans and compliance dates.

Notwithstanding paragraph 358 of the Consent Decree, nothing in this Consent Decree shall be construed to limit the State of New Jersey to take additional action(s) if the State of New Jersey determines that such actions are necessary to protect public health, safety, welfare and the environment. Nothing in this Consent Decree shall constitute a waiver of any statutory or common law right of the State of New Jersey to require such additional measures should the State of New Jersey determine that such measures are necessary. Nothing in this Consent Decree shall preclude the State of New Jersey from taking an administrative or judicial action against Valero Refining Company - New Jersey for matters other than the air pollution matters set forth in this Consent Decree.

B. Prior 114 Requests

Section 114 Request from EPA March 2000

C. Inspections/Areas of Concern

Refinery Initiative inspection by EPA Region II in August 2004, except for potential MACT I violations.

V. OKLAHOMA

Ardmore Refinery

A. Outstanding Enforcements

DATE	TYPE	DESCRIPTION OF ALLEGED VIOLATION
11/8/2004	NOV (ODEQ)	ODEQ alleges that Ardmore Refinery failed to monitor 2 Group 1 storage vessel primary and secondary seals within 60-months and 12-months respectively.
6/19/2004	NOV (ODEQ)	3 Violations - Valero in non-compliance with the following rules & regulations - 60.482-6 & 60.482-7(a) by failing to conduct monthly monitoring on each valve of the CFHT, Amine and LD Dock process units and failing to equip 10 open-ended lines with a cap, blind flange, plug or second valve and 60.483-2(b)(5) by including non-subject equipment in the leaking valve percentage calculations
3/7/2002	Administrative Consent Order (ODEQ)	All matters resolved in Administrative Consent Order entered into with State of Oklahoma.

B. Prior 114 Requests

None

C. Inspections/Areas of Concern

None

APPENDIX Q RESOLVED ENFORCEMENT MATTERS

VI. TEXAS

Corpus Christi East

A. Outstanding Enforcements

DATE	TYPE
12/28/2004	NOE (TCEQ)
12/2/2004	NOV (TCEQ)
8/19/2004	NOV (TCEQ)
7/19/2004	NOE (TCEQ)
4/14/2004	NOE (TCEQ)
1/6/2004	NOE (TCEQ)
8/28/2003	NOE (TCEQ)
3/19/2002	NOV (TCEQ)

B. Prior 114 Requests

Section 114 Request from EPA March 2000

C. Inspections/Areas of Concern

None

Corpus Christi West Refinery

A. Outstanding Enforcements Matters

DATE	TYPE
10/22/2004	NOE (TCEQ)
8/16/2004	NOV (TCEQ)
7/1/2004	NOV (TCEQ)
8/12/2003	NOV (TCEQ)
6/27/2003	NOV (TCEQ)
12/7/2001	NOE (TCEQ)

B. Prior 114 Requests

Section 114 Request from EPA March 2000

C. Inspections/Areas of Concern

None

McKee Refinery

A. Outstanding Enforcements

DATE	TYPE
1/3/2005	NOE (TCEQ)
12/30/2004	NOV (TCEQ)
12/30/2004	NOE (TCEQ)
12/30/2004	NOE (TCEQ)
12/30/2004	NOE (TCEQ)
12/30/2004	NOE (TCEQ)
12/30/2004	NOE (TCEQ)
12/30/2004	NOE (TCEQ)
12/30/2004	NOE (TCEQ)
11/30/2004	NOV (TCEQ)
11/29/2004	NOV (TCEQ)
9/14/2004	NOE (TCEQ)

B. Prior 114 Requests

None

C. Inspections/Areas of Concern

None

APPENDIX Q **RESOLVED ENFORCEMENT MATTERS**

Houston Refinery

A. Outstanding Enforcements Matters

DATE	TYPE
1/6/2005	NOE (BAQC)
12/30/2004	NOE (BAQC)
12/29/2004	NOE (BAQC)
12/22/2004	NOE (BACQ)
12/22/2004	NOE (BACQ)
11/22/2004	NOE (BACQ)
11/17/2004	NOE (BACQ)
11/12/2004	NOE (BACQ)
11/4/2004	NOE (BACQ)
10/15/2004	NOE (BACQ)
8/31/2004	NOE (BACQ)
8/26/2004	NOE (BACQ)
8/26/2004	NOE (BACQ)
8/16/2004	NOE (BACQ)
8/16/2004	NOE (BACQ)
7/29/2004	NOV (BACQ)
5/27/2004	NOE (BACQ)
5/27/2004	NOE (BACQ)
5/27/2004	NOE (BACQ)
5/19/2004	NOV (BACQ)
5/14/2004	NOE (BACQ)
5/6/2004	NOE (BACQ)
4/28/2004	NOE (BACQ)
4/28/2004	NOE (BACQ)
4/12/2004	NOE (BACQ)
4/7/2004	NOV (BAQC)
4/7/2004	NOV (BAQC)
3/3/2004	NOE (BACQ)
2/25/2004	NOV (BACQ)
1/26/2004	NOE (BACQ)
11/24/2003	NOE (BACQ)
11/7/2003	NOE (BACQ)
10/24/2003	NOE (BAQC)
9/19/2003	NOE (BAQC)
8/29/2003	NOE (BAQC)
7/25/2003	NOE (BAQC)
7/8/2003	NOE (BAQC)
7/3/2003	NOE (BAQC)
5/30/2003	NOE (BAQC)
4/30/2003	NOE (TCEQ)
4/23/2003	NOE (TCEQ)
3/6/2003	NOE (TCEQ)
11/4/2002	NOE (TCEQ)
9/5/2002	NOE (TCEQ)
4/9/2002	NOE (TCEQ)

B. Prior 114 Requests

Section 114 Request from EPA March 2000

C. Inspections/Areas of Concern

None

APPENDIX Q **RESOLVED ENFORCEMENT MATTERS**

Texas City Refinery

A. Outstanding Enforcements Matters

DATE	TYPE
3/31/2005	NOE (TCEQ)
1/31/2005	NOV (TCEQ)
1/24/2005	NOE (TCEQ)
1/12/2005	NOE (TCEQ)
1/10/2005	NOE (TCEQ)
1/10/2005	NOE (TCEQ)
1/10/2005	NOE (TCEQ)
1/6/2005	NOE (TCEQ)
1/6/2005	NOE (TCEQ)
1/6/2005	NOV (TCEQ)
1/4/2005	NOE (TCEQ)
1/4/2005	NOE (TCEQ)
12/28/2004	NOV (TCEQ)
12/10/2004	NOV (TCEQ)
8/31/2004	NOV (TCEQ)
8/31/2004	NOV (TCEQ)
8/31/2004	NOV (TCEQ)
8/28/2004	NOV (TCEQ)
3/4/2004	NOV (TCEQ)
3/2/2004	NOV (TCEQ)
7/8/2002	NOE (TCEQ)
5/15/2002	NOV (TCEQ)
11/7/2001	NOV (TCEQ)
10/12/2001	NOV (TCEQ)
7/6/2001	NOE (TCEQ)

B. Prior 114 Requests

Section 114 Request from EPA March 2000

C. Inspections/Areas of Concern

EPA compliance investigation report dated August 1996, as it related to NESHAP Subpart FF and the handling of the Marathon Sour Water Stripper and rich amine streams.
EPA Air Inspection of April 19-22, 1999 and May 25-28, 1999

Three Rivers Refinery

A. Outstanding Enforcements Matters

DATE	TYPE
8/30/2002	NOV (TCEQ)
7/31/2002	NOE (TCEQ)
2/11/2002	NOV (TCEQ)
1/30/2002	NOE (TCEQ)
1/23/2002	NOV (TCEQ)

B. Prior 114 Requests

None

C. Inspections/Areas of Concern

None

APPENDIX R
Mobile Source Provisions

1. The claims asserted by or available to the United States and/or Plaintiff-Interveners to which the "effect of settlement" provisions of Paragraph 354A of the Consent Decree apply including the follow:
 - a. Alleged failure to comply with the annual average oxygen content standard as set forth in a report to EPA submitted November 15, 1999.
 - b. Alleged failure to comply with the annual average oxygen content standard at the Texas City Refinery for report year 2000.
 - c. Alleged failure to comply with the average oxygen content standard at the Houston Refinery for report year 2000.
 - d. Alleged violation of the maximum per gallon olefin content standard on October 12, 1999.
 - e. Alleged exceedances of the applicable Reid Vapor Pressure standard on September 1, 2000 (Houston Refinery), August 24, 2001 (Houston Refinery), April 30, 2000 (Ultramar PADD1 facility), and April 30, 2001 (Ultramar PADD1 facility).
 - f. Alleged exceedances of the applicable E-200 fuel property range on or about November 28, 2001.
 - g. Alleged violations set forth in the Valero attest audits for 2001-2003.
2. To increase awareness of obligations to comply with federal and state mobile source regulations, Valero has formed a Clean Fuels Implementation Team consisting of representatives from its affiliates and subsidiaries' organizations. A copy of the charter for the CFIT outlining current roles and responsibilities and membership is attached to this Appendix. For the duration of this Consent Decree, Valero shall continue to support and operate the CFIT.

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CFIT – Structure

- Location – Corporate
- Meetings – Monthly
- Membership – One representative from each of the following departments:

Corp. Engr. & Tech
Planning & Economics
Internal Audit
Regulatory Affairs
Environmental Law
Retail
Wholesale
Refined Products Trading
Product Control
Planning & Economics
Refinery Operations

CFIT – Charter

Purpose

- Facilitate communication and compliance with issues pertaining to fuels regulations
- Act as primary Valero contact with State and Federal EPA on fuels issues
- Source of technical and regulatory knowledge for all functional groups to use in solving compliance and quality control issues

Actions

- Communication -
 - √ Serve as primary contact with State and Federal EPA on fuels issues
 - √ Issue summary of proposed and new regulations
- Recommendations -
 - √ Issue recommendations (guidelines for policies and procedures), that have been approved by management
 - √ Work directly with operations/affected groups on compliance issues

Accountability

- Accountability for compliance with the regulations remains with the line organizations

APPENDIX S

PREDICTIVE EMISSIONS MONITORING SYSTEMS FOR HEATERS AND BOILERS WITH CAPACITIES BETWEEN 150 AND 100 MMBTU/HR

A Predictive Emissions Monitoring Systems ("PEMS") is a mathematical model that predicts the gas concentration of NO_x in the stack based on a set of operating data. Consistent with the CEMS data frequency requirements of 40 C.F.R. Part 60, the PEMS shall calculate a pound per million BTU value at least once every 15 minutes, and all of the data produced in a calendar hour shall be averaged to produce a calendar hourly average value in pounds per million BTU.

The types of information needed for a PEMS are described below. The list of instruments and data sources shown below represent an ideal case. However at a minimum, each PEMS shall include continuous monitoring for at least items 3-5 below. Valero or Tesoro, as appropriate, will identify and use existing instruments and refinery data sources to provide sufficient data for the development and implementation of the PEMS.

Instrumentation:

1. Absolute Humidity reading (one instrument per refinery, if available)
2. Fuel Density, Composition and/or specific gravity - On line readings (it may be possible if the fuel gas does not vary widely, that a grab sample and analysis may be substituted)
3. Fuel flow rate
4. Firebox temperature
5. Percent excess oxygen
6. Airflow to the firebox (if known or possibly estimated)
7. Process variable data - steam flow rate, temperature and pressure - process stream flow rate, temperature & pressure, etc.

Computers & Software:

Relevant data will be collected and stored electronically, using computers and software.

The hardware and software specifications will be specified in the source-specific PEMS.

Calibration and Setup:

1. Data will be collected for a period of 7 to 10 days of all the data that is to be used to construct the mathematical model. The data will be collected over an operating range that represents 80% to 100% of the normal operating range of the heater/boiler;
2. A "Validation" analysis shall be conducted to make sure the system is collecting data properly;
3. Stack Testing to develop the actual emissions data for comparison to the collected parameter data; and
4. Development of the mathematical models and installation of the model into the computer.

The elements of a monitoring protocol for a PEMS shall include:

1. Applicability

- a. Identify source name, location, and emission unit number(s);
- b. Provide expected dates of monitor compliance demonstration testing.

2. Source Description

- a. Provide a simplified block flow diagram with parameter monitoring points and emission sampling points identified (e.g., sampling ports in the stack);
- b. Provide a discussion of process or equipment operations that are known to significantly affect emissions or monitoring procedures (e.g., batch operations, plant schedules, product changes).

3. Control Equipment Description

- a. Provide a simplified block flow diagram with parameter monitoring points and emission sampling points identified (e.g., sampling ports in the stack);
- b. List monitored operating parameters and normal operating ranges;
- c. Provide a discussion of operating procedures that are known to significantly affect emissions (e.g., catalytic bed replacement schedules).

4. Monitoring System Design

- a. Install, calibrate, operate, and maintain a continuous PEMS;
- b. Provide a general description of the software and hardware components of the PEMS, including manufacturer, type of computer, name(s) of software product(s), monitoring technique (e.g., method of emission correlation). Manufacturer literature and other similar information shall also be submitted, as appropriate;
- c. List all elements used in the PEMS to be measured (e.g., pollutant(s), other exhaust constituent(s) such as O₂ for correction purposes, process parameter(s), and/or emission control device parameter(s));
- d. List all measurement or sampling locations (e.g., vent or stack location, process parameter measurement location, fuel sampling location, work stations);
- e. Provide a simplified block flow diagram of the monitoring system overlaying process or control device diagram (could be included in Source Description and Control Equipment Description);
- f. Provide a description of sensors and analytical devices (e.g., thermocouple for temperature, pressure diaphragm for flow rate);
- g. Provide a description of the data acquisition and handling system operation including sample calculations (e.g., parameters to be recorded, frequency of measurement, data averaging time, reporting units, recording process);

- h. Provide checklists, data sheets, and report format as necessary for compliance determination (e.g., forms for record keeping).

5. Support Testing and Data for Protocol Design

- a. Provide a description of field and/or laboratory testing conducted in developing the correlation (e.g., measurement interference check, parameter/emission correlation test plan, instrument range calibrations);
- b. Provide graphs showing the correlation, and supporting data (e.g., correlation test results, predicted versus measured plots, sensitivity plots, computer modeling development data).

6. Initial Verification Test Procedures

- a. Perform an initial relative accuracy test (RA test) to verify the performance of the PEMS for the equipment's operating range. The PEMS must meet the relative accuracy requirement of the applicable Performance Specification in 40 C.F.R. Part 60, Appendix B. The test shall utilize the test methods of 40 CFR Part 60, Appendix A;
- b. Identify the most significant independently modifiable parameter affecting the emissions. Within the limits of safe unit operation, and typical of the anticipated range of operation, test the selected parameter for three RA test data sets at the low range, three at the normal operating range and three at the high operating range of that parameter, for a total of nine RA test data sets. Each RA test data set should be between 21 and 60 minutes in duration;
- c. Maintain a log or sampling report for each required stack test listing the emission rate;
- d. Demonstrate the ability of the PEMS to detect excessive sensor failure modes that would adversely affect PEMS emission determination. These failure modes include gross sensor failure or sensor drift;
- e. Demonstrate the ability to detect sensor failures that would cause the PEMS emissions determination to drift significantly from the original PEMS value;
- f. The PEMS may use calculated sensor values based upon the mathematical relationships established with the other sensors used in the PEMS. Establish and demonstrate the

number and combination of calculated sensor values which would cause PEMS emission determination to drift significantly from the original PEMS value.

7. Quality Assurance Plan

- a. Provide a list of the input parameters to the PEMS (e.g., transducers, sensors, gas chromatograph, periodic laboratory analysis), and a description of the sensor validation procedure (e.g., manual or automatic check);
- b. Provide a description of routine control checks to be performed during operating periods (e.g., preventive maintenance schedule, daily manual or automatic sensor drift determinations, periodic instrument calibrations);
- c. Provide minimum data availability requirements and procedures for supplying missing data (including specifications for equipment outages for QA/QC checks);
- d. List corrective action triggers (e.g., response time deterioration limit on pressure sensor, use of statistical process control (SPC) determinations of problems, sensor validation alarms);
- e. List trouble-shooting procedures and potential corrective actions;
- f. Provide an inventory of replacement and repair supplies for the sensors;
- g. Specify, for each input parameter to the PEMS, the drift criteria for excessive error (e.g., the drift limit of each input sensor that would cause the PEMS to exceed relative accuracy requirements);
- h. Conduct a quarterly electronic data accuracy assessment tests of the PEMS;
- i. Conduct semiannual RA tests of the PEMS. Annual RA tests may be conducted if the most recent RA test result is less than or equal to 7.5%. Identify the most significant independently modifiable parameter affecting the emissions. Within the limits of safe unit operation and typical of the anticipated range of operation, test the selected parameter for three RA test data pairs at the low range, three at the normal operating range, and three at the high operating range of that parameter for a total of nine RA test data sets. Each RA test data set should be between 21 and 60 minutes in duration.



8. PEMS Tuning

- a. Perform tuning of the PEMS provided that the fundamental mathematical relationships in the PEMS model are not changed.
- b. Perform tuning of the PEMS in case of sensor recalibration or sensor replacement provided that the fundamental mathematical relationships in the PEMS model are not changed.